

Clinicopathological Studies in Case of Generalized Lymph Node Enlargement, Done Under Local/Regional/General Anaesthesia in A Peripheral Medical College and Hospital

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Abstract

Background: Lymph node enlargement may be primarily the site of a disease but mostly it is involved secondarily as a part of a disease. Lymphadenopathy which gives rise pain & swelling of node & clinically manifested by tender, enlarged node, sometimes matted by the presence of discharging sinus. Fine needle aspiration cytology (FNAC) is simple, safe, cost-effective, reliable and rapid procedure. Histopathological examination is universally accepted as final diagnostic method of any organ or tissue.

Materials and Methods: About 50 cases admitted or attended to Murshidabad Medical College & Hospital both medical and surgical ward with generalized lymph adenopathy during the periods from 1st April 2021 to 30th June 2022 were studied. The data was collected with the help of a proforma. The cases were analysed with respect to age, sex, distribution, symptomatology & their duration. The investigation was scrutinized to establish mode of diagnosis in these cases. An attempt was made to find out various regimens of treatment of these patients.

Results: Surgical biopsies of lymph nodes of 50 patients were reviewed microscopically and analysed. In our studies, tuberculosis accounts for 46% of the total cases, next being reactive hyperplasia of lymph node which accounts for one fourth (24%), this is followed metastatic carcinoma of total cases, next being non-Hodgkin's lymphoma (4cases) being greater than Hodgkin's lymphoma. In our studies male female preponderance 3:2. In our studies reactive hyperplasia of lymph node affects all the age uniformly whereas tuberculosis was common in the 2nd, 3rd & 4th decade of life. Swelling was the common symptoms followed by fever, weight loss varying degree & loss of appetite, gastrointestinal symptoms like vomiting, constipation & jaundice was present in few cases.

Conclusion: In our study most of the lesions were found to be being (74%) tubercular lymphadenitis, being the commonest (23 out of 50cases). Swelling is the commonest mode of presentation. The commonest mode of diagnosis was lymph node biopsy. FNAC showed that was quite reliable, safe, rapid method of diagnosis.

Keywords: Lymphadenopathy, Tubercular, commonest, HP Exam, under Local/Regional/General anaesthesia.

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Introduction

The human body has approximately 600 lymph nodes. The submandibular, axillary or inguinal lymph nodes may be palpable in healthy people [1]. Nodes are packed with lymphocytes that are organized into cortical nodules and medullary cords by connective tissue, trabecule and lymphatic sinuses [2]. Lymphadenopathy refers to nodes that are abnormal in either size, consistency or number [3,4].

Lymph node may be primarily the site of a disease but mostly it is involved secondarily as part of other disease. Generalised enlargement of lymphoreticular system stands out unique as one where in a symptom also constitutes a sign [5,6]. Lymphadenopathy which gives rise to pain & swelling of node & clinically manifested by tender, enlarged node, sometimes matted by the presence of discharging sinus. Swellings of lymph node that are commonly encountered at OPD include reactive & tubercular lymph node particularly the latter in our country [7].

A node may be site of metastatic deposit of various malignancies, or it can be primary site of lymphoma, a life-threatening disease of various types. Cervical, axillary and supraclavicular lymph nodes are commonly involved. Inguinal lymph node is less involved. Routine blood examination, chest x-ray, other radiological exam (CT scan, ultrasonography), Montoux test, clinical exam and detailed history may sometimes indicate the cause, but nothing can give a conclusive diagnosis. Fine needle aspiration cytology (FNAC) is a simple, safe, cost-effective, reliable, rapid procedure [8].

Another cytological diagnostic method is imprint cytology [9]. Histopathological exam is universally accepted as the final diagnostic method of lesion of any organ or tissue.[10].

Aims & Objectives: Lymphadenopathy, a very common presentation in our everyday practice. The clinical enigma may either be forme-fruste or the disease itself or its effects. It forms the apex of a medical jigsaw puzzle which one seeks to unrevealed when proceeding with its investigation. Its accompanying morbidity & occasional mortality further compound the grievousness of the complaints. With the advancement of medical technology, making accurate diagnosis & treatment possible, it becomes imperative that one establishes a diagnosis, early in the stage of diseases, thereby decreasing morbidity & cost of treatment of this ominous clinical presentation. Confrontation of this nature seeks an answer which begins with the approach to such a clinical manifestation, it commences from interrogation of a patient through examination & investigation, the basis being a sound knowledge of locally prevalent disease pattern.

This study endeavour to find out pattern of such disease to presenting to our hospital, Murshidabad Medical College & Hospital, Berhampore, West Bengal. The cases entered for study (about 50 were diagnosed) and response to treatment noted.

Results: A total of 50 (fifty) patients with lymph adenopathy were included in our clinicopathological studies. The age & Sex distribution of our patients is depicted in Table no 1 & 2. The lymphadenopathy was found to be the commonest in the age group 21-30 years.

The male preponderance was obvious with ratio of 3:2. Out of 50 patients in this series, 30 cases were male & 20 cases were female (Table 1).

Table 1: Sex Incidence of 50 cases

Sex	No of Cases	Percentage	Histological diagnosis
Male	30	60%	10 Tubercular lymphadenitis 8 Reactive hyperplasia
			1 Chr. Nonspecific lymphadenitis 3 Non Hodgkin's lymphoma 2 Hodgkin's disease 6 Metastatic lymph node
Female	20	40%	13 Tubercular 4 Reactive hyperplasia 1 Non specific lymphadenitis 1 Metastatic 1 No Hodgkin's lymphoma
Total	50	100%	

In this present series, the age incidence varied from 3 years to 75 years (Table 2) Table 2 shows various types of lymph adenopathy, the percentage amongst the various age groups. However, in this study there were 7 cases where histopathology showed secondary metastatic deposits. In 23 cases histopathology showed tubercular lymph adenitis and 12 cases reactive hyperplasia.

Table 2: Age Incidence of 50 Cases

Sex	No of Cases	Percentage	Histological diagnosis
3-10	5	10%	2 Tubercular lymphadenitis 2 Reactive Hyperplasia 1 Hodgkin's lymphoma
11-20	9	18%	3 Reactive Hyperplasia 5 Tubercular lymphadenitis 1 Hodgkin's lymphoma
21-30	12	24%	7 Tubercular lymphadenitis 3 Reactive Hyperplasia 2 non-Hodgkin's lymphoma.
31-40	8	16%	5 Tubercular lymphadenitis 1 Reactive hyperplasia 1 Metastatic lymphnodes 1 chr nonspecific lymphadenitis.
41-50	7	14%	3 Tubercular Lymphadenitis 1Reactive Hyperplasia 1 non-Hodgkin's lymphoma 2 Metastatic lymph nodes.
51-60	4	8%	1 Nonspecific chr. lymphadenitis 2 Reactive Hyperplasia 1 Metastatic.
61-70	3	6%	1 Tubercular lymphadenitis 1 Hodgkin's lymphoma 1 Metastatic lymph node.
71-75	2	4%	2 Metastatic lymph nodes

Lymph nodes included in this study were found to be of different sites, Cervical, axillary, inguinal, supraclavicular, mesenteric group of lymph nodes. It has been done local/regional/General anaesthesia in our study group. Lymph node biopsy taken from cervical group of lymph nodes in majority of the cases, next common sites are inguinal axillary, supraclavicular group of lymph nodes. In our series of 50 cases, 23 cases of lymph adenitis were tubercular. In this series, Female predominated over males(M: F = 10:13).

Table 3: Presenting features in TB lymphadenitis

S. No.	Features	Present in number of patients	Percentages
1	Swelling of lymph nodes	23	110%
2	Pain	2	8.7%
3	Abscess	2	8.7%
4	Sinus	3	13%
5	Fever	12	51%
6	Cough with expectoration	8	34%
7	Loss of weight	12	51%
8	Anorexia	8	34%
9	Insidious onset	21	91%
10	Acute onset	2	8.7%
11	Acute abdomen with intestinal obstruction	4	17.4%
12	Jaundice	1	4.3%

Patients in this series of tubercular lymphadenitis had one constant feature that is swelling either in the neck or inguinal region or axillary region. It was painless swelling in 91% cases of tubercular lymphadenitis, Fever was found to accompany nodal swelling in 50 % cases.

4 cases presented with acute abdomen, two of them with features of acute intestinal obstruction. Diagnosis was obvious after exploratory laparotomy under general anaesthesia. Two cases out of 4, findings were miliary tuberculosis. In this tubercular series, average 50 % cases presented with anorexia & weight loss. In one third of cases presented with cough or without expectoration. Abscess and sinus formation occurred at the site of lymph nodes in 2 and 3 cases respectively. In

our limited experience, one of the rare patients with "abdominal omental cake" covering almost the whole abdomen was found with features of jaundice, ascites and intestinal obstruction. In these four cases, lymphadenopathies were incidental findings. Table 4 & 5 depict the symptomatology and their duration of our patients where fever & swelling at various parts of the body were the most common presenting features. Loss of weight and loss of appetite were two other prominent symptoms followed by cough & other miscellaneous symptoms in one fourth of cases. Miscellaneous symptoms include acute abdomen, yellowish discoloration of urine, Backache & Hoarseness of voice etc. Urinary complaints include dysuria, Burning micturation, hesitancy, heamaturia etc.

Table 4: Symptom Analysis

Disease	Fever	Swelling	Loss of weight	Loss of appetite	Altered bowel habit	Vomiting	Urinary complain	Cough	Misc
Tuberculosis	12	13	12	8	2	5	4	8	5
Hodgkin's lymphoma	1	2	2	2	0	0	0	0	0
NonHodgkin's lymphoma	2	4	3	3	1	0	1	2	0
Chr. Nonspecific lymphadenitis	2	2	0	1	0	1	0	1	2
Reactive Hyperplasia	7	12	2	3	0	0	0	0	4
Metastasis	4	7	5	4	0	0	0	3	3
Total	28	40	24	21	3	6	5	13	15

Table 5: Symptom Analysis

Duration of symptoms	Tuberculosis	Hodgkin's disease	Non-Hodgkin disease	Reactive Hyperplasia	Metastatic	Chr nonspecific
< 1 Month	0	0	0	0	2	0
1-6 Month	11		3	4	3	
6 Month to 1 Year	6	2	1	4	2	1
>1 Year	6	0	2	2	1	0

Gastrointestinal symptoms like vomiting, hematemesis, sometimes features of acute Intestinal obstruction had led to exploratory laparotomy. Patients with symptoms of 1-6 months duration reported the highest incidence, next followed by symptoms lasting for 6 months to 1 year. The percentages of patients presenting with symptoms within one month were minimum. Lastly an attempt was made towards identifying the best mode of diagnosis in our series as shown in table no- 6.

Table 6: Showing modes of diagnosis

Disease	Peripheral smear	X-ray chest	FNAC	Lymph node biopsy	Endoscopy	Exp. laparotomy	Liver Biopsy
Tuberculosis	0	7	17	19	0	4	0
Hodgkin's Disease	0	0	2	2	0	0	0
Non-Hodgkin's lymphoma	1	0	3	3	0	0	0
Chr. Non-specific lymph-adenitis	0	0	2	2	0	0	0
Reactive Hyperplasia	0	0	8	12	0	0	0
Metastasis	0	0	6	7	0	3	0

Lymph node biopsy was found to be most efficient mode of diagnosis where as many as 45 cases were diagnosed. Amongst the others, Fine Needle aspiration cytology was the next best mode of diagnosis where FNAC was able to diagnose 38 cases correctly. Exploratory laparotomy was diagnostic in 4 cases. Diagnosis was obvious by chest x ray in 7 cases of Koch's lymph adenitis.

Therefore, best mode of diagnosing lymph adenitis is histopathological examination of lymph node followed by FNAC which is next best mode of diagnosis (in order of merits). Endoscopic Exam had been useful to detect Primary site of malignancy in three cases.

Table 7: Follow up of patients.

Total number of cases	Died in hospital	Died in house	Alive & doing well	No information
50	4	5	37	4

Table-7 shows follow up of patients were studied in the series of 50 patients and follow up was not possible in 4 cases; 37 cases were alive and doing well and following up in outpatient department (SOPD). Four cases died in hospital and five patients died in their own house.



Figure 1

Photomicrograph of FNAC smear of a lymph node showing mixed population of lymphocytes, centrocytes, centroblasts and scattered plasma cells and histiocytes Reactive hyperplasia (MGG X 240).



Figure 2

Photomicrograph of the lymph node shows the evidence of caseating necrosis and a few Langhan's type of Giant cell, tuberculous lesion of lymph node. (H&E X HP)



Figure 3

Photomicrograph of FNAC smear of the lymph node showing many large Reed-Sternberg cells with bilobed nuclei in a background of reactive inflammatory cells - Hodgkin's Lymphoma (MGG X 600)



Figure 4

Photomicrograph of FNAC smear of lymphnode showing monotonous population of large lymphoid cells having pale granular nuclear chromatin and few histiocytes Non Hodgkin's Lymphoma (MGG X 240).

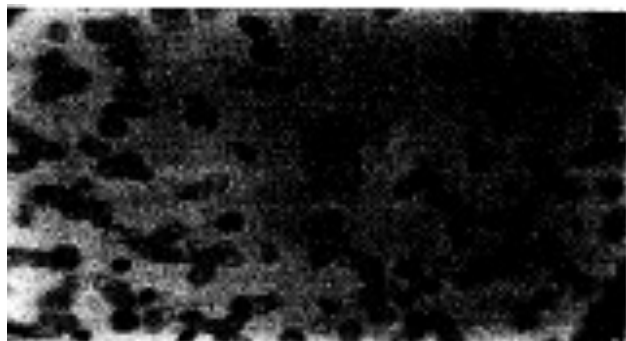


Figure 5

Photomicrograph of imprint smear of a lymph node showing large RS cells with bilobed nuclei & scattered lymphocytes - Hodgkin's Lymphoma (MGG X 900)

Discussion: There are number of articles Published in various aspects of lymphadenopathy. In our studies, tuberculosis

alone accounts for 46% of the total cases next being reactive hyperplasia of lymph node which accounts for one fourth (24%). This is followed by metastatic carcinoma which accounts for 14% of the total cases, next being - non-Hodgkin's lymphoma (4 cases), being greater than Hodgkin's disease.

Although literature shows incidence of Hodgkin's lymphoma is greater than non-Hodgkin's, but in our studies of 50 cases, N.H.L. consists of 4 cases & 2 cases of Hodgkin's lymphoma [11, 12]. Though in our experience the male preponderance is 3:2. Mohan Singh reported a male Preponderance of 5:1[13]. It is interesting to that in our experience reactive hyperplasia of lymph node affected all age groups uniformly, whereas tuberculosis was common in the 2nd, 3rd & 4th decade of life[14,15]. Swelling was the most common symptoms followed by fever, weight loss varying degree & loss of appetite, gastrointestinal symptoms like vomiting constipation & jaundice was present in few cases. Only one third of the cases had some amount of weight loss and loss of appetite. It is interesting & surprising experience to note that exploratory Laparotomy was done in four cases where lymph adenopathy was incidental finding. One case in our total case studies presented with diffuse abdominal swelling, pain, jaundice with features of acute abdominal swelling goes for emergency laparotomy & it showed with "omental abdominal" cake with adherent coils of intestines. Adhesiolysis as far as practicable and a small portion of omental cake was excised & sent for Histopathological examination. In our study of tuberculosis lymphadenopathy painless swelling of lymph nodes particularly cervical groups along with mild to moderate weight loss, insidious onset, in few cases loss of appetite is the presenting features. Lymph node biopsy was the main mode of diagnosis in these cases as many as 45 cases, chest X-ray accounted for diagnosis of 7 cases, Exploratory Laparotomy & endoscopic examination" was responsible for diagnosis of the rest of the cases. 38 cases out of 50 patients diagnosis was possible by FNAC as already stated in more than 80% cases diagnosis was proved correct & fruit full which was later on confirmed by lymph node biopsy. In our present study of 50 cases, 7

(seven) cases of metastatic lymph node were found. Primary sites were obvious in two cases in but in other five cases, to detect primary sites, additional investigation like Bronchoscopy & upper G.I endoscopy, were helpful. Three cases were diagnosed as advanced Bronchogenic Carcinoma, was refer the cases to Chittaranjan National Cancer Institute, Calcutta for further treatment. Other two metastatic carcinoma, Primary sites were stomach & thyroid, both these cases were in advanced stage, surgery was impossible due to fixity of neck glands with involvement of recurrent laryngeal nerve. The other case i.e. papillary CA thyroid with involvement of recurrent laryngeal nerve, planning of near total thyroidectomy was done but patients party refused such an extensive operation. One patient with Bilateral Breast CA, (left breast fungating) with fixed hard bilateral lymph node; toilet mastectomy of left breast along with tissue taken from left axillary lymph node for H/P examination was done. In post operative period, we used regimen of 3 cycles of chemotherapy consisting of 5 F. U., cyclophosphomide & methotrexate at weekly intervals; then we refer the case to Chittaranjan National Cancer Hospital, Kolkata for radiotherapy & future treatment. One case with fungating penile growth with metastatic bilateral inguinal lymph nodes came with retention of urine, we did emergency suprapubic cystostomy, refer the case to specialist centre regarding treatment, after doing FNAC & histopathological Examination of inguinal lymph node. Lastly, the treatment the patients received was reviewed of the 23 patients with tuberculosis all received ant tubercular treatment. The drugs, like Rifampicin, INH, Pyrazinamide, Ethambutol. Inj. Streptomycin is potent ant tubercular drugs. Hooper (1972) said that tuberculous lymphadenitis however, extensive or localised, is best treated by adequate chemotherapy in the same way as in all other forms of the disease. Surgery was indicated for 1) Biopsy 2) grossly enlarged

caseating nodes 3) Excision of abscess 4) Post treatment excision 5) radical surgery when gland mass is due to anonymous mycobacteria. In the present study, antitubercular short term four drugs regimen (9 months duration) was started in all 23 cases from the beginning in various combinations. All other patients are either still on ATD drugs or following up in SOPD regularly. Two patients developed abscess (axillary) & 3 patients were complicated by discharging sinus. 4 patients in our series were diagnosed to have non- Hodgkin's lymphoma, of them 3 patients received chemotherapy with cyclophosphamide, vincristine, adrimycin & Prednisolone. One patient refused therapy on account of financial constraints. One patient expired during 3rd course of chemotherapy, other patient (46 case) after completing 2nd course of chemotherapy, went to his house and did not come back for further course of chemotherapy; expired at his house after 3 months of his hospital discharge. Two patients suffered from Hodgkin's lymphoma, both of them received chlorambucil, Procarbazine & Prednisolone. About 7 metastatic carcinomas, details of their history & their treatment had already been discussed. For the 12 patients with reactive hyperplasia and two patients with chr. non-specific lymphadenitis, no definite treatment was offered excepting for basically reassurance and advised for timely regular follow up. Most of them have not developed any further complications during tenure of the study.

Summary and Conclusion: A total of 50 patients with lymphadenopathy were studied in our present study. The male to female ratio was found to be 30, 20 of the 50 cases the causes of generalised enlargement of lymph nodes are

- a) Tuberculosis – 23
- b) Reactive Hyperplasia of lymph node – 12
- c) Chr. non-specific lymph adenitis – 2
- d) Hodgkin's lymphoma – 2

- e) Non - Hodgkin's lymphoma – 4
- f) Metastatic lymph node – 7

In our study most of the lesions were found to be benign (74%), tubercular lymphadenitis being the Commonest (22 out of 50 cases). Of the 50 patients, 41 had cervical lymph nodal involvement, 23 axillaries; 20 inguinal 11 Supraclavicular gland, 4 patients had mesenteric lymph node enlargement. Swelling was the commonest mode of presentation accounting for 46 of the totals of 50 cases. The commonest mode of diagnosis was lymph node biopsy.

To detect Primary site of malignancy, endoscopic Examination like Bronchoscopy, upper GI endoscopy had become very useful. Diagnosis became obvious after exploratory laparotomy in 4 cases. Fine needle aspiration cytology (FNAC) evaluation of lymphadenopathy showed that it was quite reliable, safe rapid, preoperative diagnostic modality in more than 80% cases.

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